

*THE IMPACT OF VERBAL PROMPTS ON
CHILD SAFETY-BELT USE IN SHOPPING CARTS*

MAE R. BARKER, JON S. BAILEY, AND NATALIE LEE

FLORIDA STATE UNIVERSITY

Each year thousands of children are injured by falling from shopping carts. Buckling children into the seats of shopping carts could prevent many of these injuries. A combined reversal and multiple baseline across settings design was used to evaluate the impact of verbal prompts on shopping cart safety-belt use in two stores. Safety-belt use increased following implementation of the verbal prompt. This study extends the literature on the efficacy of verbal prompting in the promotion of safety-belt use.

DESCRIPTORS: prompts, safety, safety belts, shopping carts

The National SAFE KIDS Campaign estimates that each year about 12,800 children are injured in falls from shopping carts. Buckling children in the seats of carts could prevent many of these injuries, yet few people engage in this practice. Ferrari and Baldwin (1989) found that safety-belt use increased from 1% to 14% after implementation of a multicomponent prompt package that consisted of visual prompts like those shown to increase automobile safety-belt use (e.g., signs and flyers). When a verbal prompt was added to the package (i.e., a research assistant approached shoppers and reminded them to use newly installed safety belts), safety-belt use increased to 51%. The effect of the verbal prompt alone on shopping cart safety-belt use was not evaluated.

Verbal prompting has been shown to increase automobile safety-belt use. Austin, Alvero, and Olson (1998) observed a 20% increase in safety-belt use by restaurant patrons who were told by a hostess upon leaving, "Don't forget to buckle up." Similarly, Gras, Cunill, Planes, Sullman, and Oliveras (2003)

found that safety-belt use increased 30% when an interviewer told drivers, "Remember to buckle your safety belt because it is very effective for avoiding serious injury or death if you have a traffic accident." To extend the literature on verbal prompting and shopping cart safety, the current study investigated the independent impact of a verbal prompt on safety-belt use in shopping carts.

METHOD

Participants and Settings

A supermarket and a large retail store served as the two experimental settings. Each shopper who entered the store and placed a child in the seat of a shopping cart equipped with a safety belt was included in the study. The average number of participants per observation was 7.5 (range, 6 to 11) in the supermarket and 10.4 (range, 9 to 16) in the retail store.

Data Collection

Observers used a behavioral checklist to collect data on safety-belt use, defined as the customer buckling the safety belt around the child in the seat of the cart. The observers unobtrusively watched shoppers near the entrance of the store. Safety-belt use was scored immediately after the shopper obtained a

This research is based on the master's thesis of the first author and the honor's thesis of the third author. We thank Eliga Collison, Manuel Rodriguez, and the many store employees who assisted with this project.

Address correspondence to Mae R. Barker, Department of Psychology, Florida State University, One University Way, Tallahassee, Florida 32306-1270.

cart from the cart rack inside the store. Maintenance of safety-belt use after leaving the entrance was not assessed. Data were converted to percentages by dividing the number of children who were buckled in by the total number of children placed in a shopping cart and multiplying the result by 100%. During the intervention, the observers also recorded whether the assistant executed the prompting sequence correctly. If the assistant did not wait 2 or 3 s and state the prompt correctly, the data for that participant were excluded from the results. Such instances occurred rarely throughout the study. Observation sessions lasted approximately 2 hr per day and were conducted over a 3-month period during times when the highest number of shoppers with young children shopped.

Interobserver agreement for safety-belt use was assessed during 59% of the observations in both settings. Interobserver agreement was calculated by dividing the number of agreements by the number of agreements plus disagreements and multiplying the result by 100%. Mean agreement for safety-belt use was 99% in the supermarket and 97% in the retail store.

Procedure

A combined reversal and multiple baseline across settings design was used to evaluate the impact of verbal prompts on shopping cart safety-belt use in two stores.

Baseline. Conditions were identical to those usually present in the store. No signs pertaining to shopper safety were posted, and no safety reminders were stated. For control purposes, the effects of greeter behaviors that would occur simultaneously with the verbal prompt during intervention (opening the cart's seat, unbuckling the belt, placing the two halves of the belt along the sides of the seat, and then dispensing the cart to the shopper) were evaluated in four of the baseline sessions.

Verbal prompt. In the supermarket, a male undergraduate research assistant wearing a store uniform and name tag welcomed shoppers and distributed carts at the store's entrance. When shoppers entered the store, the assistant said, "Hi! Welcome to [store's name]. Would you like a cart?" If shoppers with children who were shorter or equal to the height of the cart handle requested a cart, the assistant provided a cart, opened its seat, unbuckled the belt, and placed the two halves of the belt along the seat. After a child was placed in the seat, the greeter waited 2 s to 3 s. If the customer buckled the child or was in the process of buckling the child, then the greeter did not deliver the verbal prompt. If the shopper did not buckle the child, the greeter stated, "Have a nice day, and don't forget to buckle up." This condition was assessed in both settings, but a store security officer delivered the prompt in the retail store.

RESULTS AND DISCUSSION

In both stores, a substantially larger percentage of shoppers buckled children into shopping carts during the verbal prompt condition than in baseline (see Figure 1). Safety-belt use during the control manipulation in the supermarket (Baseline Sessions 10 to 13) remained unchanged, indicating that the other behaviors of the greeter did not influence safety-belt use (Figure 1, top).

These results extend those of Ferrari and Baldwin (1989) by demonstrating the effectiveness of verbal prompts alone on shopping cart safety-belt use. Verbal prompts may be just as effective as more expensive prompting packages, especially if store employees who already greet shoppers and distribute carts can be trained to deliver such prompts. The importance of verbal prompts is further emphasized by the recent findings

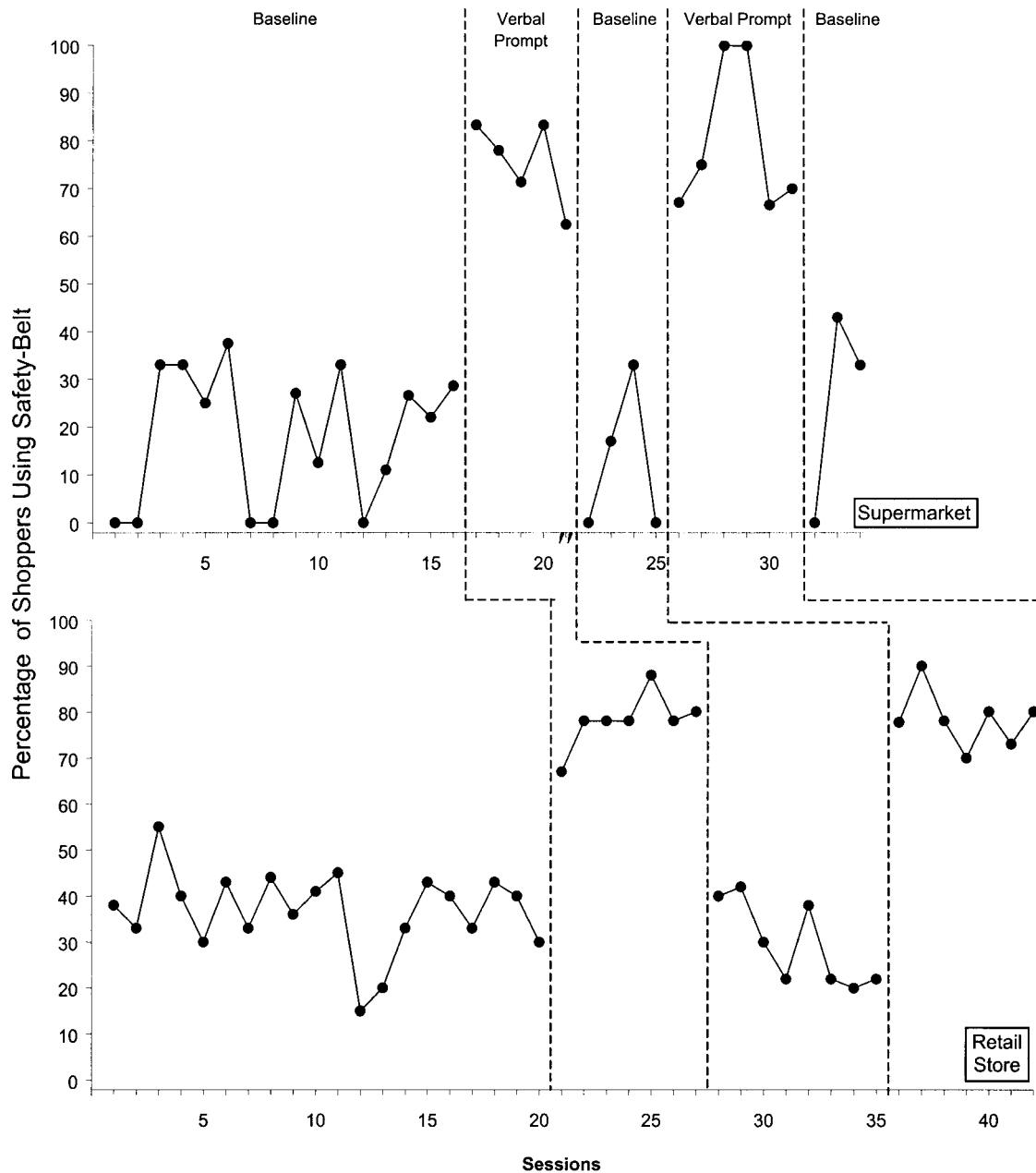


Figure 1. Percentage of shoppers who used the child safety belt across baseline and verbal prompt conditions in the supermarket (top panel) and retail store (bottom panel). As indicated by the hash marks on the x axis in the top panel, data during the first baseline and verbal prompt phases (Sessions 1 to 21) were collected earlier as part of the first author's master's thesis. The replication phases in the supermarket (Sessions 22 to 34) and all of the phases in the retail store were conducted concurrently.

of Harrell (2003), which showed that warning signs had no impact on the shopping-cart practices of adults.

The effectiveness of the verbal prompts

might be attributed to the explicit, concise, and polite manner in which the prompts were delivered. Verbal prompts may be effective because of individual reinforcement

histories for following or not following the directives of others. Analysis of factors that might contribute to the efficacy of verbal prompting should be an area for future research.

One limitation of this study and in previous research was the lack of data on whether children remain buckled up while in the store. Some shoppers may have responded to the prompt by buckling their children at the store's entrance, but then later unbuckling them. If future studies indicate this type of problem, further research would be needed to address the maintenance of shopping cart safety-belt use.

REFERENCES

- Austin, J., Alvero, A. M., & Olson, R. (1998). Prompting patron safety-belt use at a restaurant. *Journal of Applied Behavior Analysis, 31*, 655–657.
- Ferrari, J. R., & Baldwin, C. H. (1989). From cars to carts: Increasing safety-belt usage in shopping carts. *Behavior Modification, 13*, 51–64.
- Gras, M. E., Cunill, M., Planes, M., Sullman, M. J., & Oliveras, C. (2003). Increasing safety-belt use in Spanish drivers: A field test of personal prompts. *Journal of Applied Behavior Analysis, 36*, 249–251.
- Harrell, W. A. (2003). Effect of two warning signs on adult supervision and risky activities by children in grocery shopping carts. *Psychological Reports, 92*, 889–898.

Received August 11, 2003

Final acceptance August 24, 2004

Action Editor, Dorothea Lerman